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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
CONNECT CHARGES	27.30	27.45
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FULL ESTIMATED COST	56.18	56.33

IN FILE 'EMBASE, SCISEARCH, MEDLINE' AT 15:55:42 ON 27 SEP 2000

=> d his

(FILE 'HOME' ENTERED AT 15:33:55 ON 27 SEP 2000)

FILE 'EMBASE, SCISEARCH, MEDLINE' ENTERED AT 15:34:08 ON 27 SEP 2000

L1 2336 S ((HUMAN CHORIONIC GONADOTROPIN) OR HCG) AND ((PREGNAN? (3A)  
L  
L2 0 S B152 AND B207  
L3 0 S B207 AND B108 AND B109  
L4 512 S L1 AND ?ASSAY?  
L5 8972 S EARLY (P) ((PREGNAN? (3A) LOSS?) OR ABORT?)  
L6 234 S L5 AND L4  
L7 990 S CARBOHYDRATE (2A) MODIF?  
L8 142 S (NICK? OR (NON NICK?)) AND HCG  
L9 0 S L6 AND L7  
L10 3 S L7 AND L8  
L11 4 S L6 AND L8  
L12 3 DUP REM L11 (1 DUPLICATE REMOVED)  
L13 1 DUP REM L10 (2 DUPLICATES REMOVED)  
L14 0 S L12 AND (B109 OR B108 OR B207 OR B152)  
L15 0 S L1 AND L7  
L16 9 S L1 AND L8  
L17 6 DUP REM L16 (3 DUPLICATES REMOVED)

L12 ANSWER 1 OF 3 SCISEARCH COPYRIGHT 2000 ISI (R)  
ACCESSION NUMBER: 2000:350641 SCISEARCH  
THE GENUINE ARTICLE: 310KD  
TITLE: Preparation and analysis of the common urinary forms of  
**human chorionic gonadotropin**  
AUTHOR: Birken S (Reprint); Maydelman Y; Gawinowicz M A  
CORPORATE SOURCE: COLUMBIA UNIV COLL PHYS & SURG, DEPT MED, 630 W 168 ST,  
NEW YORK, NY 10032 (Reprint)  
COUNTRY OF AUTHOR: USA  
SOURCE: METHODS-A COMPANION TO METHODS IN ENZYMOLOGY, (MAY 2000)  
Vol. 21, No. 1, pp. 3-14.  
Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN  
DIEGO, CA 92101-4495.  
ISSN: 1046-2023.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: English  
REFERENCE COUNT: 43

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB **Human chorionic gonadotropin (hCG)**  
) is the hormone of pregnancy and forms the basis of all pregnancy tests  
as well as diagnostic **assays** for a variety of pathological  
states including certain types of cancers and some diseases of pregnancy  
and genetic abnormalities. In recent years, the discovery of the  
diagnostic utility of measurement of the free subunits and fragments of  
the hormone, especially in urine, has proven of special use for diagnosis  
of very **early pregnancy loss**, an important  
phenomenon related to infertility, as well as part of screening programs  
for Down Syndrome and gynecological cancers. This article summarizes  
existing and new methods for the preparation of **hCG**, its  
subunits, and the beta core fragment from urinary sources, The methods  
for  
proper analyses of these materials are also described to enable  
investigators to prepare and analyze these materials in various  
quantities  
in their own laboratories. (C) 2000 Academic Press.

L12 ANSWER 2 OF 3 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.DUPLICATE 1  
ACCESSION NUMBER: 1998153435 EMBASE  
TITLE: Diagnostic problems with variant forms of **human**  
**chorionic gonadotropin**.  
AUTHOR: Udoji W.C.; Victory D.F.; Cartwright P.S.; Bohler H.L.  
CORPORATE SOURCE: Dr. W.C. Udoji, Department of Pathology, Metropolitan  
Nashville Gen. Hospital, 1818 Albion St., Nashville, TN  
37208, United States. Jgowen@nashville.org  
SOURCE: Laboratory Medicine, (1998) 29/4 (243-246).  
Refs: 15  
ISSN: 0007-5027 CODEN: LBMEBX  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 005 General Pathology and Pathological Anatomy  
010 Obstetrics and Gynecology  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB Serum and urine levels of **human chorionic**  
**gonadotropin (hCG)** were measured in four women who  
sustained fetal **loss in early pregnancy**.  
Intact **hCG** was detectable in the urine when the quantitative  
serum level of **.beta.-hCG** (total **.beta.**) was less then 5 mIU/mL

(5 U/L). Paired serum and urine samples subsequently were analyzed for total and intact hCG using research methods. The results suggested that the discrepancies were due to the presence of large quantities of **nicked hCG** in the serum and to differences in its recognition by various **immunoassays**. Laboratorians need to recognize the existence of variant forms of hCG and differences in their recognition by different **immunoassays**.

L12 ANSWER 3 OF 3 SCISEARCH COPYRIGHT 2000 ISI (R)  
ACCESSION NUMBER: 1998:98274 SCISEARCH  
THE GENUINE ARTICLE: YT139  
TITLE: Urine beta-core fragment, a potential screening test for ectopic pregnancy and spontaneous **abortion**  
AUTHOR: Cole L A (Reprint); Isozaki T; Jones E E  
CORPORATE SOURCE: YALE UNIV, SCH MED, DEPT OBSTET & GYNECOL, 333 CEDAR ST, NEW HAVEN, CT 06477 (Reprint)  
COUNTRY OF AUTHOR: USA  
SOURCE: FETAL DIAGNOSIS AND THERAPY, (NOV-DEC 1997) Vol. 12, No. 6, pp. 336-339.  
Publisher: KARGER, ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND.  
ISSN: 1015-3837.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: CLIN  
LANGUAGE: English  
REFERENCE COUNT: 23

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB The incidence of ectopic pregnancy in the United States has risen 6-fold in the last three decades. It now accounts for about 2% of reported

pregnancies. Tests are now needed to identify ectopic pregnancy before it is clinically evident. We evaluated **human chorionic gonadotropin** beta-core fragment as a test to predict ectopic pregnancy and spontaneous **abortion**.

Urine samples were collected from women with in vitro fertilized pregnancies, 2 1/2-5 weeks after embryo transfer. Fifty samples were collected from those later shown to have normal intrauterine pregnancies, samples from 13 women subsequently found (at 5-9.3 weeks) to have ectopic gestations, and 15 from those with impending spontaneous **abortion**. beta-Core fragment levels were determined by **immunoassay**, and results normalized to creatinine concentration. Median beta-core fragment levels at 2 1/2-3, 3-4, and 4-5 weeks after embryo transfer, were 6.7, 91 and 737 mu g/g for unaffected pregnancies, 1.0, 5.9 and 0.6 mu g/g for impending ectopic pregnancies (0.15, 0.065 and 0.0008, multiples of the unaffected pregnancy median, MoM), and 0.75, 6.8 and 12 mu g/g for impending spontaneous **abortions** (0.11, 0.07 and 0.016 MoM). A gestation-linked curve was modeled to discriminate unaffected pregnancy from impending ectopic gestation or spontaneous **abortion**. Plotted beta-core fragment levels were below this curve in 12 of 13 (92%) women with impending ectopic pregnancy, in 10 of 15 (67%) with

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Measurement of urine beta-core fragment at 2 1/2-5 weeks after embryo transfer (4 1/2-7 weeks after last menstrual period) might be useful for identifying failing pregnancies. Over three quarters (predictive value positive 76%) of those with low beta-core fragment levels have ectopic pregnancy or spontaneous **abortion**. On the contrary, 95% (predictive value negative) of those with normal range test values may be predicted to have a nonfailing term pregnancy. Diagnosis of ectopic pregnancy could be confirmed by transvaginal ultrasound, and ectopic pregnancy terminated **early** by nonsurgical methods, with minimal mortality or fertility loss. Major fetal defects that cause spontaneous **abort** pregnancies may also be recognized by transvaginal ultrasound. In such cases, chorionic villous sampling or possibly

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 TI Preparation and analysis of the common urinary forms of **human chorionic gonadotropin**  
 AB **Human chorionic gonadotropin (hCG)**  
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 STP KeyWords Plus (R): BETA-CORE FRAGMENT; FREE ALPHA-SUBUNIT; HUMAN CHORIOGONADOTROPIN; PREGNANCY URINE; **HCG**; SERUM; HETEROGENEITY; PROTEIN; **NICKING**; MARKER

L12 ANSWER 2 OF 3 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.DUPLICATE 1  
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 AB Serum and urine levels of **human chorionic gonadotropin (hCG)** were measured in four women who sustained fetal **loss** in **early pregnancy**. Intact **hCG** was detectable in the urine when the quantitative serum level of .beta.-**hCG** (total .beta.) was less then 5 mIU/mL (5 U/L). Paired serum and urine samples subsequently were analyzed for total and intact **hCG** using research methods. The results suggested that the discrepancies were due to the presence of large quantities of **nicked hCG** in the serum and to differences in its recognition by various **immunoassays**. Laboratorians need to recognize the existence of variant forms of **hCG** and differences in their recognition by different **immunoassays**.  
 CT Medical Descriptors:  
 \*fetus wastage: DI, diagnosis  
 urine level  
 blood level  
**immunoassay**  
 abdominal pain  
 vagina bleeding  
 human  
 female  
 case report  
 adult  
 article  
 \*chorionic gonadotropin: EC, endogenous compound  
 NP (1) Tosoh AIA-600; (2) **Icon II HCG**

L12 ANSWER 3 OF 3 SCISEARCH COPYRIGHT 2000 ISI (R)  
 TI Urine beta-core fragment, a potential screening test for ectopic pregnancy and spontaneous **abortion**  
 AB . . . about 2% of reported pregnancies. Tests are now needed to identify ectopic pregnancy before it is clinically evident. We evaluated **human chorionic gonadotropin beta-core**

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On the contrary, 95% (predictive value negative) of those with normal range test values may be predicted to have a nonfailing term pregnancy.

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defects that cause spontaneous **abort** pregnancies may also be recognized by transvaginal ultrasound. In such cases, chorionic villous sampling or possibly termination may be considered.

ST

Author Keywords: ectopic pregnancy; extrauterine; spontaneous **abortion**; core fragment; beta-core; screening; **hCG**; **human chorionic gonadotropin**; transvaginal ultrasound

STP

KeyWords Plus (R): SALPINGOSTOMY; **NICKING**; **HCG**

=> d 113 ibib ab kwic

L13 ANSWER 1 OF 1 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.DUPLICATE 1

ACCESSION NUMBER: 95063691 EMBASE

DOCUMENT NUMBER: 1995063691

TITLE: The role of glycosylation in regulating the glycoprotein hormone free .alpha.-subunit and free .beta.-subunit combination in the extraembryonic coelomic fluid of early pregnancy.

AUTHOR: Blithe D.L.; Iles R.K.

CORPORATE SOURCE: NICHD, National Institutes of Health, Building 10, Bethesda, MD 20892, United States

SOURCE: Endocrinology, (1995) 136/3 (903-910).  
ISSN: 0013-7227 CODEN: ENDOAO

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 003 Endocrinology

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The extraembryonic coelomic fluid (EECF) represents a major compartment in

the fetal-placental unit during the first trimester of pregnancy. The compartment is composed of the fluid contained between the chorionic and amniotic membranes. The levels of glycoprotein hormone free .alpha.-subunit and free .beta.-subunit in the EECF far exceed those in the amniotic fluid or maternal serum. Furthermore, the level of free .alpha. in this compartment is twice that of intact hCG. We purified the glycoprotein hormone free .alpha.-subunit from a pool of EECF. This free .alpha.-subunit was found to be larger in size than the .alpha.-subunit

of

intact hCG. The size difference was observed by sodium dodecyl sulfate-polyacrylamide gel electrophoresis under reduced and denatured conditions. The carbohydrate composition of the EECF free .alpha.-subunit indicated a higher degree of oligosaccharide branching, as evidenced by larger amounts of fucose, sialic acid, galactose, and N-acetylglucosamine than were present on combined hCG.alpha.. These differences in size and carbohydrate composition argue strongly against the concept that free .alpha.-subunits might originate from dissociation of intact hCG or 'nicked' hCG. The free subunits of the EECF were evaluated for their ability to combine with the corresponding subunit obtained by dissociation of intact hCG. EECF free .beta. was able to combine with hCG.alpha. to form intact hCG. In contrast, EECF free .alpha. was unable to combine with hCG .beta. to form intact hCG. However, after removal of the asparagine-linked glycans by treatment with N-glycanase, most of the previously uncombinable free .alpha.-subunits were able to combine with hCG.beta.. These data demonstrate that the N-linked oligosaccharide(s) of EECF free .alpha. has a function to prevent the molecule from combining with the available and combinable free .beta.-subunits that coexist in the same physiological compartment during early pregnancy. In view of the large amount of free .alpha. that is present in the EECF and the observation that, in vitro, free .alpha. can stimulate uterine decidual cell PRL secretion, together with the close apposition of free .alpha.-producing cells to decidual cells, it is likely that EECF free .alpha. has a function in early pregnancy. **Carbohydrate modifications** generated during the biosynthesis of EECF free .alpha.-subunit ensure that a population of free .alpha. molecules can exist in the presence of substantial quantities of free .beta.-subunits,

and correspondingly, these same **carbohydrate modifications** function to permit the existence of free .beta.-subunits in the same gestational compartment with free .alpha. molecules. Whether there is a function for free .beta.-subunits in early pregnancy remains to be demonstrated.

AB . . . the amniotic fluid or maternal serum. Furthermore, the level of free a in this compartment is twice that of intact **hCG**. We purified the glycoprotein hormone free .alpha.-subunit from a pool of EECF. This free .alpha.-subunit was found to be larger in size than the .alpha.-subunit of intact **hCG**. The size difference was observed by sodium dodecyl sulfate-polyacrylamide gel electrophoresis under reduced

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L17 ANSWER 2 OF 6 MEDLINE  
ACCESSION NUMBER: 1999113037 MEDLINE  
DOCUMENT NUMBER: 99113037  
TITLE: Evaluation of **nicked human**

**chorionic gonadotropin** content in  
clinical specimens by a specific immunometric assay.  
AUTHOR: Kovalevskaya G; Birken S; Kakuma T; Schlatterer J;  
O'Connor

CORPORATE SOURCE: J F  
Irving Center for Clinical Research, Columbia College of  
Physicians and Surgeons, New York, NY 10032, USA..  
gk49@columbia.edu

CONTRACT NUMBER: ESO7589 (NCRR)  
M01-RR00645 (NICHD)  
HD15454

SOURCE: CLINICAL CHEMISTRY, (1999 Jan) 45 (1) 68-77.  
Journal code: DBZ. ISSN: 0009-9147.

PUB. COUNTRY: United States  
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English  
FILE SEGMENT: Priority Journals; Cancer Journals

ENTRY MONTH: 199903  
ENTRY WEEK: 19990305

AB We report the development and characterization of an IRMA for the direct measurement of **nicked human chorionic gonadotropin** (hCGn) in blood and urine. hCGn derived from a reference preparation of **hCG** used as an immunogen elicits monoclonal antibodies (mAbs) with enhanced recognition of human luteinizing hormone epitopes. The most specific assay for pregnancy hCGn is an IRMA composed of one mAb to choriocarcinoma-derived hCGn (C5) and a second mAb developed from immunization with normal-pregnancy hCGn. This assay was used to evaluate hCGn profiles in normal, in vitro fertilization, Down syndrome, and ectopic pregnancies. In all pregnancies, hCGn was usually present in much lower concentrations than the **non-nicked hCG** isoform. Our results suggest that some form of physical separation from the overwhelming quantities of **non-nicked hCG** present in clinical specimens will be required before accurate immunochemical estimations of hCGn can be made.

TI Evaluation of **nicked human chorionic gonadotropin** content in clinical specimens by a specific immunometric assay.

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· CT Check Tags: Animal; Female; Human; Support, U.S. Gov't, P.H.S.

**Abortion, Spontaneous: UR, urine**

Antibodies, Monoclonal: IM, immunology

Antibody Specificity

Biological Markers: BL, blood

Biological Markers: UR, urine

Choriocarcinoma: BL, . . .

L17 ANSWER 4 OF 6 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.DUPLICATE 2

ACCESSION NUMBER: 1998015299 EMBASE

TITLE: Immunoassay of **human chorionic gonadotropin**, its free subunits, and metabolites.

AUTHOR: Cole L.A.

CORPORATE SOURCE: L.A. Cole, hCG Reference Laboratory, Department of Obstetrics/Gynecology, Yale University School of Medicine, New Haven, CT 06520, United States. laurence.cole@yale.edu

SOURCE: Clinical Chemistry, (1997) 43/12 (2233-2243).

Refs: 41

ISSN: 0009-9147 CODEN: CLCHAU

COUNTRY: United States

DOCUMENT TYPE: Journal; General Review

FILE SEGMENT: 010 Obstetrics and Gynecology

029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Multiple **hCG**-related molecules are present in pregnancy serum and urine samples. These include **non-nicked hCG** (the hormone), **nicked hCG**, hyper- and hypoglycosylated **hCG**, **hCG** missing the C-terminal extension, free .alpha.-subunit, large free .alpha.-subunit, free .beta.-subunit, **nicked** free .beta.-subunit, and .beta.-core fragment. Over 100 immunoassays are sold for quantifying **hCG**-related molecules in serum or urine. Each measures **non-nicked hCG** and one of seven combinations of the other **hCG**-related molecules. This is the source of interassay discordance in **hCG** determinations. Whereas minor variations are noted in different kit results in normal pregnancy samples (more than twofold variation), much larger variations may be found in two immunoassay results in irregular gestations (spontaneous **abortion**, aneuploidy, preeclampsia, cancers, and trophoblast disease). Care is needed in choosing an immunoassay. What the assay measures may be more important than its cost or speed. This article reviews the structure of **hCG** and related molecules. It examines the stability and degradation of **hCG**, and recognition of **hCG**-related molecules by different types of immunoassay. Also reviewed are new assays for specifically detecting these other **hCG**-related molecules.

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CT

Medical Descriptors:

\*hormone determination

\*pregnancy complication

immunoassay

beta chain

carboxy terminal sequence

alpha chain

clinical feature

**spontaneous abortion**

aneuploidy

preeclampsia

uterus cancer

ovary cancer

trophoblastic disease

review

L17 ANSWER 5 OF 6 SCISEARCH COPYRIGHT 2000 ISI (R)

ACCESSION NUMBER: 1998:98274 SCISEARCH

THE GENUINE ARTICLE: YT139

TITLE: Urine beta-core fragment, a potential screening test for ectopic pregnancy and spontaneous **abortion**

AUTHOR: Cole L A (Reprint); Isozaki T; Jones E E

CORPORATE SOURCE: YALE UNIV, SCH MED, DEPT OBSTET & GYNECOL, 333 CEDAR ST, NEW HAVEN, CT 06477 (Reprint)

COUNTRY OF AUTHOR: USA

SOURCE: FETAL DIAGNOSIS AND THERAPY, (NOV-DEC 1997) Vol. 12, No. 6, pp. 336-339.

Publisher: KARGER, ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND.

ISSN: 1015-3837.

DOCUMENT TYPE: Article; Journal

FILE SEGMENT: CLIN

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ST Author Keywords: ectopic pregnancy; extrauterine; spontaneous **abortion**; core fragment; beta-core; screening; **hCG**; **human chorionic gonadotropin**; transvaginal ultrasound

STP KeyWords Plus (R): SALPINGOSTOMY; **NICKING**; **HCG**

L17 ANSWER 6 OF 6 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.  
 ACCESSION NUMBER: 94008358 EMBASE  
 DOCUMENT NUMBER: 1994008358  
 TITLE: **Human chorionic gonadotropin:**  
 Molecular forms, detection, and clinical implications.  
 AUTHOR: Bidart J.-M.; Bellet D.  
 CORPORATE SOURCE: Department of Molecular Immunology, Institut  
 Gustave-Roussy, URA CNRS 1484,75006 Paris, France  
 SOURCE: Trends in Endocrinology and Metabolism, (1993) 4/9  
 (285-291).  
 ISSN: 1043-2760 CODEN: TENME4  
 COUNTRY: United States  
 DOCUMENT TYPE: Journal; General Review  
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 SUMMARY LANGUAGE: English

AB Different molecular forms of **human chorionic gonadotropin (hCG)** have been identified in biologic fluids of patients with various physiopathologic processes. These materials include (a) the intact heterodimer **hCG** comprising two mature .alpha. and .beta. subunits, and (b) the uncombined or free forms of the .alpha. (**hCG.alpha.**) and .beta. subunit (**hCG .beta.**), and several fragments of **hCG** such as the **nicked** forms of both **hCG** and free **hCG.beta.** and its ending degradation product, the .beta.-core fragment or **hCG.beta.cf.** The determination of **hCG** and related molecules in biologic fluids is usually achieved by immunologic procedures, but discrepancies among kits remain a problem in clinical practice. Specific measurements

of **hCG** and of, independently, its free .beta. subunit are important in the diagnosis and follow-up of either trophoblastic diseases or testicular cancers, whereas only the free **hCG.beta.** has to be assayed for detection in nongonadal and nonplacental tumors.

TI **Human chorionic gonadotropin:** Molecular forms, detection, and clinical implications.

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CT Medical Descriptors:  
 \*body . . . DI, diagnosis  
 chromosome disorder: DI, diagnosis

ectopic pregnancy: DI, diagnosis  
hormone blood level  
hormone urine level  
human  
hydatidiform mole: DI, diagnosis  
hypophysis  
hypophysis tumor: DI, diagnosis  
placenta  
pregnancy  
priority journal  
review  
seminoma: DI, diagnosis  
**spontaneous abortion: DI, diagnosis**  
testis cancer: DI, diagnosis  
trophoblastic disease: DI, diagnosis  
\*chorionic gonadotropin alpha subunit: EC, endogenous compound  
\*chorionic gonadotropin beta subunit: EC, . . .